

# ARNOLD ARBORETUM

HARVARD UNIVERSITY

## BULLETIN

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## POPULAR INFORMATION

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*Pinus* is the largest genus of coniferous trees and the one with which people of the northern hemisphere are most familiar. The long, slender, needle-like, gray or dark green leaves arranged in bundles of two or more, according to species, and the woody, usually long persistent cones are characters which distinguish them from all other trees. Their appearance is so distinct that the least observant has no difficulty in recognizing a Pine tree. The genus is essentially northern. In this country it is distributed from the Arctic Circle south to the West Indies and Guatemala. In the Old World species of Pine are known from the Arctic Circle south to the Canary Islands, northern Africa, Himalayas, Burmah, and the Philippine Islands and one species crosses the Equator to Sumatra. In all some 80 species are known, the greatest number being native of western North America including Mexico.

Pine trees grow from sea-level to high up on the mountains. They are social trees and form more or less pure woods or forests of vast extent. Often, however, they are associated with other Conifers and broad-leaved trees. The genus contains some of the most important timber trees of the world and in the temperate regions wherever trees are planted either for ornamental or for forestry purposes members of the Pine tribe are in request. In South Africa, in Australia, and in New Zealand, where no species of Pine is indigenous, millions have been planted. Of the species employed the Californian *P. radiata* is the most useful; indeed, it promises to be the greatest tree gift the north has contributed to the southern hemisphere.

In the Arboretum some 30 species and 38 varieties of *Pinus* are growing and about half this number of species may be said to thrive. They are all to be found in the Pinetum, which is well worth a visit at any season of the year but especially during the autumn and winter months. Of the 30 species 7 are natives of northeastern North America, 9 of western North America, 8 of the Far East, 1 of the Himalayas, and 5 of Europe. The varieties are mostly sports which exhibit different types of growth. Some of these have been found in a wild state but the majority have appeared in gardens where Pine trees have been raised from seeds over a long period. These curious forms must be perpetuated by grafting, but for the

species the best and, indeed, the only practical way of raising Pine trees is from seeds.

**Eastern North American Species.** Of these the best and most beautiful is the White Pine (*P. strobus*), one of the commonest and most valuable of native trees. No lengthy description is necessary since it is known to all who love American trees. Its leaves are gray with silvery lines, slender, and arranged in bundles of five. The branches spread more or less horizontally to form a pyramidal crown, the leaves hanging somewhat give the tree a graceful outline. For planting as specimens, as forest trees or as shelter belts the White Pine is for eastern North America the most valuable Pine tree, the threat of blister rust notwithstanding. It is the most valuable timber tree of northeastern North America and has played a conspicuous part in the material development of the country. The vast forests which formerly existed have been felled and the great trees, once the pride of the northern forests, no longer exist. However, it is still plentiful, regenerates readily in open country, and the sylvan landscapes of New England owe much of their peculiar charm to the widespreading, gray-green crowns of this tree.

There are several varieties of the White Pine in cultivation, the most useful being *nana* and *fastigiata*. The dwarf form (*nana*) makes a broad, more or less round-topped bush of dense habit, seldom more than 6 feet tall but twice that in diameter. Distinct and decidedly ornamental is the variety *fastigiata*, which has ascending stems forming a columnar crown, the loose arrangement of its foliage taking away the stiffness so usual in upright-growing trees. Another excellent species is *P. resinosa*, the Red or Norway Pine, so named for a small village in Maine where once this tree was abundant. This is a handsome tree sometimes 80 feet tall with a straight trunk clothed with light, reddish brown, rather thick bark. The leaves, two in a sheath, are long but the branching of the tree is light and open. For ornamental purposes in eastern North America it is comparable with, but superior to the Austrian Pine. The Jack Pine (*P. Banksiana*) and the Jersey Pine (*P. virginiana*) can be recommended for planting on rocky waste lands. They are similar in habit of growth but the cones are quite distinct. In the Jack Pine it is oblong, points toward the apex of the branch and remains closed for many years. In the Jersey Pine the cone scales open at maturity. In the Arboretum this species has naturalized itself. The Pitch Pine (*P. rigida*) is an unlovely tree, readily recognized by the presence of green sprouts on the trunk. Except that it will grow where lashed by the sea, it has little garden value. The other two species, *P. pungens*, the Hickory Pine of the Appalachian Mountains, and *P. echinata*, the Short-leaved Pine, barely exist in the Arboretum.

**Western North American Species.** The best of these is *P. monticola*, the White Pine of the Rocky Mountains. In many respects this resembles *P. strobus* but has thicker leaves which give the crown a heavier appearance. It grows more slowly than its eastern relative, which is the more ornamental species. *P. ponderosa*, the Yellow or Bull Pine, grows quite well in the Arboretum, its long, dark





Upright White Pine (*Pinus strobus fastigiata*)

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green, thick foliage giving it, as its specific name indicates, a ponderous appearance. There is a form with hanging branches known as *pendula*, which has a distinct place in the garden. The variety *Jeffreyi* is one of the few Pacific coast Pines that thrive here. The Sugar Pine (*P. Lambertiana*) grows very slowly and gives no promise of ever becoming a useful ornamental tree. The Limber Pine (*P. flexilis*), although of slow growth, is perfectly hardy and happy in the Arboretum. Its relatively long, plume-like branches give it a characteristic appearance. The related *P. aristata* and *P. Balfouriana*, the Foxtail Pines, do poorly.

**Far Eastern Species.** The Japanese White Pine (*P. parviflora*) and the Korean Nut Pine (*P. koraiensis*) do well in the Arboretum. In Japan the first named is often grafted on *P. Thunbergii*, the result being a stunted, short-needled plant of value only for Japanese gardens. Raised from seeds, it is a free growing tree with wide-spreading, rather rigid and stiff branches. The Korean Nut Pine for eastern North America is better than the Swiss Pine (*P. cembra*) which it strongly resembles. It grows faster and its dark and thick needles give it a very handsome appearance. This is the best of the Oriental Pines from the point of view of its timber. The Red Pine of Japan (*P. densiflora*) is also quite at home in eastern North America. It has short grey-green needles and reddish brown bark. The Black Pine (*P. Thunbergii*) with thick black-green leaves and large pure white winter buds is excellent for planting by the sea. Its branches are apt to grow crookedly and the tree assumes the appearance one is familiar with in Japanese paintings and embroideries. The White Pine of China (*P. Armandi*) and the Bhotan Pine (*P. excelsa*) suffer from boring insects and neither promise to make trees in the Arboretum.

**European Species.** Of these, three with numerous varieties do very well in Massachusetts. The Austrian Pine (*P. nigra*) and its several varieties grow rapidly and with their dense, rather heavy, black-green foliage are decidedly ornamental. They withstand spray and strong gales well and for seashore gardens and windbreaks this species and its forms have great value. The Mountain Pine of central Europe (*P. mugo*) is one of the most useful dwarf Pines for garden purposes that can be grown in eastern North America. Its dark foliage and compact habit make it most adaptable for small gardens and for foundation plantings. Of the several varieties, *compacta*, *mughus* and *pumilio* are the best known. All are well worthwhile. The Macedonian Pine (*P. peuce*) grows slowly and does not promise to be of much ornamental value. The Scots Pine (*P. sylvestris*), perhaps the most useful of all the European species, is not a success in eastern North America; it grows rapidly when young but after about twenty years becomes stunted and subject to insect attacks and fungous diseases. No one Pine has been more abundantly planted in this part of the world, and it is more than probable that many will rue the day they set it out in expectation of its value as a timber producing tree.

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These Bulletins will now be discontinued until April of next year.